



UNITED STATES PATENT AND TRADEMARK OFFICE

un
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,573	07/13/2004	Hiroshi Yamamoto	EL/2-22607/CGJ 126/PCT	9324
324	7590	02/06/2008	EXAMINER	
JoAnn Villamizar			CROUSE, BRETT ALAN	
Ciba Corporation/Patent Department				
540 White Plains Road			ART UNIT	
P.O. Box 2005			PAPER NUMBER	
Tarrytown, NY 10591			1794	
			MAIL DATE	DELIVERY MODE
			02/06/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/501,573

Applicant(s)

YAMAMOTO ET AL.

Examiner

Brett A. Crouse

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-8 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

This office action is in response to the amendment, filed 6 December 2007, which cancels claim 12, amends claims 2-4, 6 and 10. Claims 2-8, and 10 are under consideration.

Response to Amendment

The nonstatutory double patenting rejection of claim 12 as being unpatentable over claims 1 and 2 of US 6,603,020 is overcome by the amendment, filed 6 December 2007, due to the cancellation of claim 12.

The objection to claim 10 as depending from cancelled claim 1 is overcome by the amendment, filed 6 December 2007.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

Art Unit: 1794

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-8, and 10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Otani et al., EP 1,087,006 hereinafter known as Otani as evidenced by ("Color", <http://en.wikipedia.org/wiki/Color>).

Otani teaches:

As to claims 2-5, and 8:

Paragraph [0001], formula I, formula III, teaches an electroluminescent device (EL) comprising in order an anode, a hole transport layer, a light-emitting layer, an optional electron transport layer, and a cathode. The EL device can comprise compound(s) of formula I in the light emitting layer. R₁ and R₂ of formula I can be independently selected as C₁-C₂₅ alkyl, allyl or -CR₃R₄-(CH₂)_m-AR₃. Ar₁ and Ar₂ of formula I can be independently selected as substituted or unsubstituted aromatic, condensed aromatic or conjugated aromatic groups. Additionally, Ar₁ and Ar₂ can be independently selected as substituted or unsubstituted carbazoles or 4-diphenylamino phenylene groups.

Paragraph [0020], teaches that the light emitting layer can comprise two or more compounds of formula I to act as energy donors or energy acceptors.

Paragraph [0003], teaches that it is commonly known in the art to employ a two component (guest-host) composition as the light-emitting materials in an EL device.

Paragraph [0011], teaches that it is important in a (guest-host) system that the fluorescent spectrum of the host overlaps the absorption spectrum of the guest material.

Art Unit: 1794

Paragraph [0017], teaches that the object of Otani is to provide EL devices emitting red, yellow or orange light.

The teachings of the overlap of the fluorescence and absorption spectrums of a guest-host system in combination with the teaching of red, yellow and orange emission is treated as evidence that the wavelengths of fluorescence and absorption meet the respective wavelength limitations as recited in claim 2

“Color”, <http://en.wikipedia.org/wiki/Color> as evidence:

“Color” teaches that the spectrum for red, yellow and orange light is about 630-700nm, 590-630nm and 560-590nm respectively.

As to claims 6 and 7:

Paragraph [0055], provides preferred compounds of formula I.

As to claim 10:

Paragraph [0038], teach a composition of light emitting material and a polymer binder (high molecular weight organic material) formed by mixing the light emitting material with a polymer binder. The ratio of binder to light emitting material is in the range of 10:1 to 1:50.

In the alternative:

If the lack of an example in which two diketopyrrolopyroles are used in the light emitting layer renders the reference non-anticipatory it would have been obvious to one of ordinary skill in the art to use a combination of diketopyrrolopyroles in the light emitting layer of an EL device with an expectation of success in forming a device having suitable

Art Unit: 1794

properties based on the teachings of Otani and the use of diketopyrrolopyroles with polymers, as host materials and as guest materials such as in examples 68, 103, and 104.

Response to Arguments

With respect to the rejection of claims 2-8, and 10 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Otani et al., EP 1,087,006 as evidenced by ("Color", <http://en.wikipedia.org/wiki/Color>), applicant argues:

1) Otani fails to teach or suggest the composition of the instant claims as amended, in part due to a lack of experimental examples, with reference to the previous office action;
and;

2) the combination of materials as claimed in the instant invention provides unexpected results as indicated by data from co-pending application 11/792,028 which illustrates the performance of a combination diketopyrrolopyrole compounds.

The examiner respectfully disagrees on both points. With respect to point 1, Otani in paragraph [0001] teaches substituted phenyl and 1-naphthyl groups are represented by Ar₁ and Ar₂. The paragraph also teaches the substituents of Ar₁ and Ar₂ include the substituents as claimed as A¹, A², A³ and A⁴ of claim 2 of the instant invention. Thus the compounds of claim 2 as amended are within the scope of the compounds of Otani. Additionally, Otani provides example data indicating that a host/guest combination of materials in an electroluminescent device is preferred to the use of the compounds individually.

Art Unit: 1794

With respect to point 2, the receipt of data as part of the arguments is acknowledged. However, the arguments of counsel cannot take the place of evidence in the record. (MPEP 716.01(c)(II)) Additionally, the data of the arguments does not compare applicant's assertion of expected results to the prior art. (MPEP 716.01(c)(I))

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

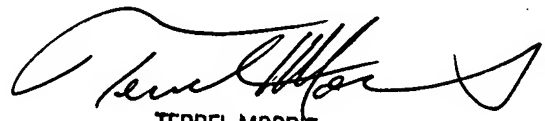
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett A. Crouse whose telephone number is 571-272-6494. The examiner can normally be reached on Monday - Friday.

Art Unit: 1794

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrell H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BAC/ 26 January 2008



TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700